UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF EMERGENCY AND
REMEDIAL RESPONSE

June 19, 2003

**MEMORANDUM**

**Subject**: RJ Lee Asbestos Testing Laboratories

**From**: Michael B. Cook, Director /s/
Office of Emergency and Remedial Response (OERR)

**To**: Superfund Regional Managers

The purpose of this memorandum is to encourage Superfund Regional Project Managers to thoroughly review any site management decision for asbestos contaminated sites where analytical data generated by asbestos testing laboratories associated with RJ Lee Group, Inc. were critical.

Data which the lab produced may have been used or submitted to EPA Regions by PRPs in support of site evaluation activities. Documents which were submitted pursuant to recent litigation (related to Libby, Montana cost-recovery issues) have raised questions regarding laboratory performance at the RJ Lee Group, Inc. asbestos testing laboratory in San Leandro, California. In particular, an audit was performed by the Quality Assurance and Technical Services (QATS) contractor for OERR's Analytical Operations Center (AOC). However, it is important to note that this audit was performed at the request of EPA Region 9 to resolve discrepancies in the results of split samples for a site. The RJ Lee Group, Inc. is not part of the EPA Contract Laboratory Program (CLP).

Issues documented in the on-site audit include, but are not limited to the following:

- Lack of appropriate laboratory specific Standard Operating Procedures (SOP) describing precise laboratory procedures, especially for operations that may be modifications or deviations from published methodology.

- Lack of adequate documentation of results from microscopic examination of samples. While an analyst might identify a fiber as chrysotile, the specific characteristics of the fiber under microscopic examination (e.g. color, refractive indices, morphology, etc.) were not documented. Therefore, there was no defensible record of how the sample was evaluated.

- Failure to adequately perform method- required Quality Assurance (QA) analyses. Methods require laboratories to analyze sample duplicates and QA reference slides at specified frequencies. The laboratory failed to perform QA analysis at the frequencies detailed by the methods. The laboratory was cited for this failure during a 1999 internal QA audit, but has failed to provide appropriate corrective action.

- Failure to perform analyses in a manner that provides for control of cross contamination of samples.

- Lack of supervisory review of analytical data.

- Lack of documentation supporting credentials and training of analysts.

- Inconsistencies in client reports in which reported results do not match raw data.

Based upon formal observations made during the on-site audit at the San Leandro laboratory, it is imperative that Regions obtain all relevant documentation for any data generated by this laboratory to make sure they are accurate, properly documented, and fully defensible in court. Where this is not found to be possible, the Region should collect and analyze new samples which meet these criteria.

Further, there is concern that questionable practices observed at the San Leandro facility may also reflect the procedures used at other RJ Lee Group testing laboratories throughout the United States. Therefore, OERR is recommending that Regions review data for all RJ Lee Group testing facilities that may have been involved in testing of asbestos samples, including samples of vermiculite products or raw ore which may have come from Libby, Montana, and may be contaminated with asbestos.

To provide for a thorough data review of analytical results, OERR suggests that Regions request, at a minimum, the raw data and information listed below. The data reviewer should review the data, and use them to validate final results received from the laboratory:

- Copies of signed Chain-of-Custody (COC) documents for each sample submitted.

  - For legal defensibility, each COC must be signed and dated for when the laboratory took control of the samples.

- Copies of final reports signed by supervisory personnel certifying the results of the analysis as accurate and meeting SOP and QA criteria.

- Copies of pertinent laboratory generated SOPs, not just copies of a formal agency generated method.

  - Reviewers should ensure that samples were analyzed according to the SOP, and that no modifications were made to a formal method that are not

included in the SOP. Also, the reviewer should ensure that if modifications were made to the lab SOP on certain samples, the modifications are noted in a laboratory narrative indicating the modifications to the SOP and the reasons for the modifications.

- Copy of laboratory Quality Assurance Program Plan (QAPP).
  - Regions should review QAPP for adequacy and ensure laboratory has followed QAPP for associated samples.
- Raw data bench sheets showing the results of specific point count operations and the results of fiber characteristic determinations.
  - For each fiber identified as asbestiform, the raw data bench sheet should contain documented information on the characteristics of the fiber (e.g. morphology refractive index, color, etc. that caused the analyst to confirm the identity of the fiber.
- Reports and raw data that indicate the frequency and results of QA analyses (such as duplicate analyses and reference slide analyses).
  - The Region should ensure that the proper frequency of QA analysis was performed (should be stated in the laboratory SOP and formal reference method), and that results of QA met criteria. Also, the reviewer should ensure that for samples not meeting QA criteria, corrective action has been taken and documented.

As this issue develops, OERR will work with the Regional EPA offices to devise a more comprehensive list of documents that can help verify the accuracy of laboratory analytical results.

While it may be common practice in some instances for a laboratory to not send a client a full raw data package confirming analytical results, laboratories are responsible for keeping raw data at the laboratory. If a laboratory either refuses to provide raw data for data confirmation review, or states that the raw data no longer exists (within a reasonable time frame), then the operations of the laboratory and the client's analytical results may be questionable. EPA should consider this issue to be pivotal in deciding how to use analytical data to establish priorities for cleanup at potentially contaminated sites.

If you have any technical questions or concerns on analytical data, please call Terry Smith with AOC (703-603-8849), or if you have technical or administrative concerns dealing with Libby associated operations, please call Dan Thornton with OERR (703-603-8811).